

ICSPEK 2013

Aspects of the 30 m Speed Development in Junior Basketball Players

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Abstract

Driving quality – speed – is and must be present in the "motor baggage" of each basketball player, given the evolution of basketball into a dynamic game, where the technical execution of players and the expert interest in honing these driving qualities excel.

Improving the quality of the driving speed among junior players will allow the acquisition and strengthening of technical and tactical actions, the signs of high speed, which will all be beneficial for the young basketball players' path to a senior career and high performance.

The interpretation of the results was performed using the graphic method in order to capture the differences between the indicator values calculated for teams and players who play fullback positions, extreme pivots, as compared to the reference value for this age group - 3.9 sec, considered as a performance for basketball players that allows adequate expression of tactical and technical knowledge as well as the achievement of optimum performance.

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Selection and peer-review under responsibility of ICPEK 2013.

Keywords: basketball, speed, junior basketball players;

1. Introduction

Physical preparation is a factor of sports preparation consisting in systematic and rational practice exercises, physical and motor skills development and education. Through it all driving skills develop and a large number of movement skills are built, creating the basis for the successful development of sports activity (Moanță, 2000). The practice of physical training aims mainly at developing driving skills in the training period and improves or

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maintains them during the competitive period. The physical training results depend on the method used and its efficiency.

Physical preparation is the underlying structure of the whole training process. Refers to increase endurance, strength, speed and mobility (suppleness), which is the basic driving skill. It also refers to the special capacity, the explosiveness of its different applications (the jump, the shot, the passes) and its duration (explosive strength), the ability to accelerate, the starting speed and generally the attitude kinetic dynamic player it is special physical qualities (Anastasiadis, 1989).

The superior level (maximum) driving expression of capacity, complements to some extent, gaps in the development and education of other motor skills. It was agreed, however, that with increasing sports mastery, ability mutual substitution tends to restrict driving capabilities (Predescu and Ghițescu, 2001).

The conditional capacities are defined as the organ / muscles capacities whose limiting factors are related to the amount of energy available to muscles and mechanisms that regulates the flow (enzymes, speed and strength of contraction due to the ability of motor units).

The conditional and the coordinative capacities differ in the following aspects:

- functional bases that limit the performance;
- forms of development in young age;
- the ratio of their progress in the two sexes;
- coaching in relation with age;
- drive means.

The driving quality - speed - is and must be present in the "motor baggage" endowment of each basketball player, given the evolution of the game of basketball to a dynamic game, the speed at which it excels executions technical specialists to educate players and concerns motor skills, ubiquitous in basketball. This driving quality offers players a number of advantages:

- allows the technical and tactical execution in a sustained rhythm;
- confers the player a high degree of adaptation to the complexity and dynamism of the basketball game ;
- develops the player's thinking skills, attention, reasoning, ability to concentrate.

2. Material and methods

2.1. Premises

The driving education is and will be a major concern of the specialists in sports in general, and especially professional sports, as evidenced by the few arguments supporting the statement made:

- have a significant role in the man's driving capacity;
- through their basic physical skills (strength, speed, endurance, etc.) it manifests itself in the specific process of preparation of athletes;
- have a significant contribution to achieving the highest possible indices of athletic performance;
- the driving qualities largely condition the building and in particular consolidating the driving skills constituting the fundamental right;
- by improving their education and ensure the harmonious development of body and improvement of physiological indices;
- improve driving skills through specific basketball game exercises which consolidate the technical executions of young players, so that they will be able to apply what they acquired in the course of training during competitions, depending on the game situation;

- educate, improve and perfect the quality - speed - solves a large part of the burden imposed by the current game of basketball.

In basketball, the game pace is faster, changeable and running takes only a few seconds, thanks to the shorter court. The player must move the pitch with speed, his reactions are fast and explosive, to suddenly move in all directions while the opponent controls the ball or on the contrary to be checked (marked) by the opponent, and all this in a relatively small space.

2.2. Hypothesis

Referring to the basketball game, it can be said that the presence of motor speed quality IN THE “MOTOR PLAYERS’ baggage” will provide different solutions to solve different game situations such as:

- in the one to one relation, individual tactical actions to overcome the opponent in speed, performance of specific techniques such as dribbling game competitive performance: the pirouette, passes the ball behind his back, between his legs (all under the speed);
- outnumbered solving situations;
- in situations of counter: huge speed, changes in direction and completion of positions more or less favourable;
- in situations of numerical superiority: passing the speed exceeded the speed completion;
- dribbling, passes made in tight spaces.
- Situations imposed by placing the positions of players: defence extremity pivot, pivot and centre.

Improving the quality of the driving speed, addressed to the juniors, will provide the acquisition and strengthening of the technical and tactical actions, the high speed signs, all this in favour of the young basketball players path to the Senior age career and high performance. The phase of development of these capacities is at the beginning of puberty, being between 12 and 17 to 18 years.

We determined as hypothesis that for the conducted research, the following: " If you are known sample values recorded at 30 m, then will be made appreciations on the level of development speed and implicit for the technical and tactical possibilities of basketball players in condition of speed.

2.3 Research methods and subjects

Components of the research were subjects playing in the men's basketball teams in the national championship edition from 2012 to 2013. We selected a total of 12 teams, each with 12 players in total 144 subjects.

The test was held in the game hall and consisted of running 30 m on a flat surface, with a standing start. Timing started when the back foot was lifted off the ground and stopped when the performer's chest crossed the finish line. The test was run 2 times and the best performance was recorded.

2.4. Statistical process

Interpretation of results was achieved through the arithmetic mean and the median calculated for teams and players to positions: defence extreme pivots.

The arithmetic mean (X) is the result of synthesizing a single numerical expression of all of the individual observed and calculated by dividing the aggregated value of the feature to the total number of units.

Median (M) is the term which occupies the central place in the series feature values arranged in ascending or descending order. The median divides the series into two equal parts: 50% of units are observed below the median and 50% higher than it.

3. Results

After calculating statistical indicators we have obtained the results listed in Table 1:

Table 1. Average and median values

Speed – average and median values								
Team	Team		Defender		Forward		Pivot	
	X	M	X	M	X	M	X	M
A	4.15	4.1	4.11	4.1	4.13	4.2	4.21	4.3
B	4.28	4.3	4.28	4.3	4.25	4.25	4.33	4.3
C	4.24	4.3	4.1	4.1	4.27	4.25	4.36	4.4
D	3.98	4.00	3.92	3.9	4.00	4.00	4.05	4.05
E	4.14	4.1	4	4	4.15	4.1	4.26	4.3
F	4.3	4.3	4.42	4.4	4.25	4.2	4.25	4.25
G	4.24	4.2	4.17	4.2	4.32	4.4	4.4	4.4
H	4.00	4.00	3.94	4.00	4.00	4.00	4.16	4.2
I	4.10	4.00	4.14	4.00	4.00	4.00	4.03	4.00
J	4.28	4.3	4.26	4.3	4.22	4.25	4.37	4.4
K	3.94	3.9	3.85	3.8	3.93	3.9	4.08	3.9
L	4.12	4.1	3.98	3.95	4.12	4.1	4.32	4.4
AVERAGE	4.14	4.145	4.09	4.105	4.136	4.14	4.23	4.255

The results interpretation was performed using the graphic method in order to grasp the differences between the values suggestive indicators calculated for teams and players who plays fullback positions, extreme pivot compared with the reference value for this age group - 3.9 sec, considered as basketball players performance that allows adequate expression tactical and technical knowledge and achieve optimum performance. The value is credited with 20 points in the FR Basketball Scoreboard (Berceanu and Moanță, 2007).

The values recorded in the tests performed and their statistical analysis in terms of mean and median, show us that at the Junior U18 level, speed development is good compared to the reference value set for this study - 3.9 sec which was taken to be an excellent value at that time also by David (2000) according to Table 2:

Table 2 - Targets for children of 16 – 19 years

Gender	Excellent	Above average	Average	Below average	Poor
Male	< 4	4.0 – 4.2	4.3 – 4.4	4.5 – 4.6	> 4.6

4. Conclusions

According to our research, we can conclude the following:

Team average is 4.14 sec; team median value is 4.14 sec. Three teams' performance values are better than the average; 2 teams register performance values equal to the average; 7 teams register performance values lower than the average. The level positions of teams: one team values are lower than the reference value 3.9 sec for extremes and defenders. Half of the team stands on the whole with values close to the average teams, for all 3 positions, the other 6 teams recorded higher values than the average for all 3 positions. A single team' median values are equal to the reference value.

Defenders average is 4.09 sec; defenders median value is 4.09 sec. Due to the characteristics of the regeneration game, they require a level of development of higher speed than the other players. Although the best results are recorded values falling players above average defence teams, only 4 teams recorded an average value lower than the average of 4.09 sec.

Extremes average is 4.13 sec; extremes median value is 4.14 sec. The average and median values indicate a speed development over average. 7 of the teams have average values far lower than the average player and six median values are lower than the median calculated for all extreme gamers.

Pivots average is 4.23 sec; pivots median value is 4.25 sec. The average and the median indicate a growth rate assigned to the average teams. Pivots are players with great stature, and so their movement speed is reduced. 5 of the teams have average values below average or median pivot players.

The average of the results indicates a distribution of the results corresponding to the driving peculiarities positions of the players, the hierarchy showing the best results in players defence but superior to the reference value which indicates excellent performance.

Developing the basketball players speed must take account of the fact that speed is present in the game of basketball in various forms: with or without the ball, or in different tactical situations: speed without the ball in the presence of an opponent (change of direction), speed with the ball in collaboration with teammates (passes of travel), the speed of the opponent with the ball (dribbling with changes of direction), speed ball in collaboration with teammates and in the presence of opponents (combinations 2-3 offensive players), the speed with ball in collaboration with teammates and opponents in the presence of combinations of 2-3 defensive players.

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